The Center for SCHOOL HEALTH Innovation & Quality

Building research, policy, and skills to improve student health™

Environmental Scan and State Assessment of School Health Services in Maine Schools:

A Report Brief to the Maine Department of Education

November 2023

About MDOE and Coordinated School Health Team

The Coordinated School Health Team within the Office of School and Students Supports in the Maine Department of Education, provides professional learning, resources, and guidance to school personnel through a lens of equity.

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About the Center

The purpose of the Center for School Health Innovation & Quality is to reinvent school health and school nursing practice to better serve all students, with a special focus on students from underserved groups facing inequities. The goals of The Center are to:

- Reimagine data-driven school health
- Innovate and research
- Promote leadership

The Center is housed in the Public Health National Center for Innovations, which is part of the Public Health Accreditation Board, a nonprofit organization established in 2007.

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Report to Maine Department of Education

Introduction

The physical, social, and mental health concerns of youth have steadily risen across the United States (U.S.) over the past few decades. In Maine, data indicate a higher prevalence of youth with mental health concerns (1 in 4 youth compared to the national average of 1 in 6) (Whitney & Peterson, 2019). Mental health is not the only concern; the rates of Maine youth experiencing an adverse childhood experience (ACE) rose to 25% in 2021 (Maine Resilience, 2022). The percentage of children who are economically disadvantaged rose from 25% to 40% from 2019 to 2022 and, 4% of Maine's children are chronically absent due to illness or injury (Annie E. Casey Foundation, 2023). Youth's physical and mental health concerns directly impact their ability to learn, and schools are struggling to address the health care needs of all their students.

To gain a deeper understanding of the state of school health services, the Maine Department of Education (MDOE) commissioned an environmental scan and state assessment of school health services. The purpose of the project was to describe school health services, examine innovative models and infrastructures that facilitate Medicaid billing, and provide recommendations for a 3-5 year plan to strengthen school health services.

Method

The environmental scan consisted of several data gathering methods including a literature review, online survey, and key informant interviews:

- A systematic literature review of successful school health services models in the United States was conducted. The articles were analyzed for innovative practice and funding models.

- A comprehensive, online survey was administered to school nurses representing all schools in the state of Maine. The survey included questions about current workload, who comprised the school health services team, activities of school nurses, documentation systems, MaineCare (Medicaid) billing practices, school nurse burnout and intent to remain in their position. Data were analyzed using descriptive analyses and examined by public/private school status and urbanicity.

- Once the data was all collected, a gap analysis, as outlined by the Agency for Health Care Research (AHRQ, 2022), was conducted to identify areas of difference between best practice and current practice in Maine. The Theory of Change (Brest, 2010) framework was then used to identify barriers existing for best practice, and for the development of recommendations.

- Key informants, identified through the survey, were interviewed to provide a more in-depth and comprehensive perspective of survey findings.

- Two focus groups with the Maine Association of School Nurse Leadership were conducted to help clarify and provide insight into the results.

- Interviews were conducted with individuals from state and local educational agencies in Colorado, Nevada, New Mexico, Michigan, and Massachusetts regarding Medicaid reimbursement for school health services, with an emphasis on school nursing. The states were chosen based on experience with Medicaid expansion and after consulting with experts in Medicaid pertaining specifically to school health services.

Results

A total of 831 articles were identified through the systematic review, 50 of which were analyzed for this project. Surveys were sent to 505 employed school nurses, and 224 responded (222 school nurses, one data and enrollment manager, and one headmaster), representing a 40% response rate. Survey respondents provided information for 260 public schools and 15 private schools. Nurses responsible for multiple schools provided information for all schools covered. Eight key informant interviews were conducted (direct quotes are italicized in the document), along with 2 focus groups with the leadership of the Maine Association of School Nurses (MASN) to help clarify and confirm results. This report is organized by the three areas specifically requested by the funders:

1. Comprehensive description of school health services models (Maine & nationally)
2. Record Keeping Practices of School Nurses
3. School Health Services Funding and MaineCare (Medicaid) Billing

To inform the development of a 3-5 year strategic plan, we also obtained information about students' chronic conditions, school nursing activities, and school nurses' intent to stay in their jobs. These results are also included in this report. We also looked at the data broken down by urbanicity and public versus private schools to note if there were any differences.

Comprehensive Description of School Health Services

- School Health Services in Maine includes not only school nursing services, but other services such as physical and occupational therapy, speech therapy, social work, and mental health counseling. Some schools also included oral health services as part of their service delivery.

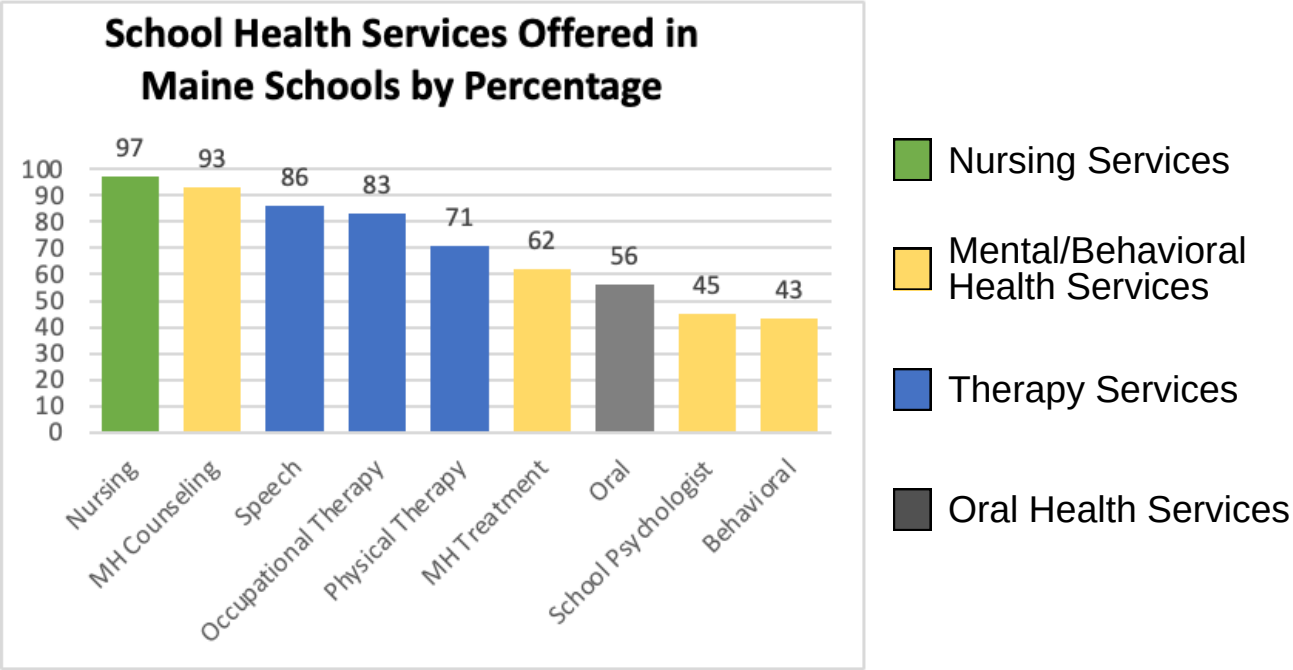

Figure 1. School Health Services Offered in Maine Schools. (MH=mental health)

Nursing (97%) and mental health counseling (93%) are the services most commonly found in schools. Figure 1 displays the services models of public schools in Maine. Tests of significance indicate rural schools were less likely than urban schools to provide behavioral intervention specialists or school psychology services. Rural schools tended to be less likely than urban schools to provide physical therapy and nursing. Respondents were asked about delivery models. The majority of professionals are employed by the school or district, with the exception of 1:1 nurses who are more likely to be contracted out. This pattern is similar among rural and urban public schools.

School Health Services Delivery Models

School health services delivery in Maine is similar to other states wherein multiple specialties provide needed care within a school. For nursing, the registered nurse is the primary source of nursing services. Unlicensed School Personal (USPs), Licensed Practical Nurses (LPNs), and 1:1 nurses are found in smaller numbers of schools. Most nurses (74%) of school nurses report to a non-nursing supervisor.

USPs are persons without a professional nursing license who are trained by a registered nurse to perform specific tasks (Maine Department of Education, 2023). Forty schools (14.5%) reported having USPs assigned specifically to assist the school nurse (dedicated USP). Having dedicated USPs assigned to the school nurse was more common in private schools (33.3%) than in public schools.

LPNs work under the direction of registered nurses or other authorized health professionals (Maine Department of Education, 2023). Eleven schools, all of which were public schools, indicated that LPNs worked in their school.

A total of 20 public schools (11 rural and 9 urban) reported utilizing 1:1 nurses. Similar to LPN utilization, urban schools were somewhat more likely than rural schools to utilize 1:1 nurses who provide primarily direct care and administer medication. Qualitative data from the key informant interviews and discussions with school nurse leadership indicated that 1:1 nurses are often used for medically fragile children, and were mostly hired through agencies. However, agencies were not always able to provide nurses due to nursing shortages. As a result, the school nurse often stepped in to cover those needs.

Nurse Staffing Considerations

Surprisingly, only 5 survey respondents (1.8%) reported using some form of a rubric to inform health room staffing decisions. This included 4 public schools (2 urban and 2 rural) and one rural private school. Information about health needs in the school was most used when determining staffing.

Impact of COVID

To better understand how COVID altered the models of school health services delivery, the survey included questions about staffing that may have been impacted by COVID funds. Over two-fifths of public schools (n = 107; 41.2%) report increasing staffing, as a result of COVID. In contrast, only one-third (n = 5) of private schools increased their staffing during COVID. Among those schools who had hired additional nurses or added nursing hours during COVID, one-third (33.1%) of public schools and half of private schools anticipated no changes when funding timeframe was reached. Over half (55.8%, n = 86) of the public schools who had added nurses or hours expected a loss of extra employees, extra hours, or both as did half the private schools (n = 3, 50%) now that the pandemic is more manageable.

Collaboration in Schools

School nurses play an important role in coordinating efforts and are most successful when communicating effectively with other school health personnel, according to focus group and interview data. Key informant interviews provided a rich description of school nurse perspectives on how different nurses and health professionals worked within the school setting. They described themselves as being critical to the functioning of the school health team. As one participant stated, *"I'm a hub on a bicycle and I connect all the spokes because everything can touch through here [school nurse office]."*

Despite feeling that collaboration and communication among team members improved during COVID, participants also noted meetings that allowed them to work together in real time would be even more helpful. At the same time, however, they recognized that structures within schools were different from hospitals that allowed for more interprofessional collaboration. *"I am thinking of back when I worked in the hospital…we would be [in]…meetings with the whole team to discuss where is this patient at, what do we need to do from this perspective, and what the physicians can be doing differently. In school, it doesn't feel like that."*

Several nurses interviewed stated that they wished all health professionals in the school had a better understanding of their respective roles. As one nurse said: *"I would love to sit down with the [Occupational Therapist] department and say 'Hey, talk to me exactly about what your department does and how could the nursing department, you know, support you guys?' And then vice versa."*

Mental Health Services

With the rise of mental health concerns, we asked about mental health service staffing and coordination with other school health services. Traditional models of school counselors or other school mental health workers do exist, but the increased needs have necessitated contracting additional community mental. Yet demand continues to exceed supply. This is of concern because Federal laws like the American with Disabilities Act (ADA) require schools to provide appropriate accommodations. Maine has already been found negligent by the U.S Department of Justice (2022) for not providing appropriate community-based behavioral health services for children. This may be putting extra pressure on schools. Generally speaking, all schools are grappling with how to address the current youth mental health crisis.

Other School Health Delivery Models

Telehealth
(14% urban; 19% rural)

Mobile Van Clinic
(18% urban; 24% rural)

School-based/school-linked health centers
(19% urban; 10% rural)

Community partners/agency
(55% urban; 46% rural)

Figure 2. Other Public School Health Deliver Models

Less than 25% of public schools indicated the use of telehealth, mobile van/clinics, or school-based health centers. Urban schools were more likely than rural schools to have school-based or school-linked health centers. The success of these programs is highly dependent on buy-in and ownership by the district. One rural nurse spoke about how telehealth was so helpful due to a lack of providers nearby. Another spoke about working synergistically with the SBHC in her district. *"I have access to the server so I can put students in for scheduling as well as she sees it so I run the schedule that gets populated by the providers as well as myself. And then I go find them and get them into the clinic."*

Many of the nurses interviewed spoke about outreaching to community partners to address specific issues such as oral health and vision. The Lions club, New Eyes for the Needy, and other community partners were identified. *"I found a mobile dental clinic where they pull up in a van and they start their generator and kids could go out there… what's great about them is they have grant money. So, a lot of my kids that have never seen a dentist were able to get in… they can actually refer them to get… free dental care…or refer them on … to set them up with a dental home."*

The results of the systematic literature review, including the grey literature, did not find any dramatically different delivery models being utilized in the schools. Models, beyond school nursing, identified in the literature included school-based health centers (SBHC), community partnerships (community organizations, Universities, and community schools), and public health agencies. Two innovative mechanisms of health care delivery in schools were identified: telehealth and mobile clinics, both of which are being used in Maine.

Record Keeping Practices of School Nurses

School nursing documentation is a key element to professional school nursing practice (NASN, 2016). Thus, we asked survey respondents not only about their documentation practices, but also if they utilized an electronic health record (EHR).

87% Student Information System

72% Paper Records

11% Electronic Health Record

Figure 3. Public School School Nurse Respondents Reports of Documentation Systems Used

Documentation

Electronic record keeping typically fall into one of two categories: a health module within a larger student information system (SIS) and a stand-alone EHR solely for health record keeping. Common SIS systems are Power School or Infinite Campus. Only 16% of participants (11% of public schools) utilized an EHR while 83% total (74% public schools) documented in an SIS. Public schools were significantly more likely to use an electronic health module in an overarching computerized SIS than were private schools. Private schools, on the other hand, were significantly more likely to use an EHR, possibly reflecting a private school's access to resources and ability to purchase EHRs. Urban public schools were significantly more likely than rural schools to keep records in a health module within an overarching computerized SIS. Rural public schools were significantly more likely to use a separate EHR than urban schools. Surprisingly, 72% of respondents indicated they still document on paper.

Electronic Health Records (EHRs)

Of the 35 schools that reported using an EHR, the most commonly used was SNAP, by 62.9% of the schools. Rural public schools were more likely to use SNAP than urban public schools. Among rural private schools, SNAP and ENRG-NX were the most commonly used EHRs.

Many key informants spoke positively of wanting an EHR and/or using an EHR to better track health issues and document care. Several just recently obtained EHRs and were excited to utilize them: *"We haven't been able to collect [data] and to be able to show it to them [administrators] to say, you know, we need more… I don't think they realize how much that is done in the nurse's office and what's coordinated through the nurse's office."*

There was a recognition that nurses were not aware of what was possible with respect to EHR, *"I came into this totally blind like I've never had an EHR in a school, you know nobody around has it and so I didn't know any different with my power school. I did what I did…I did my notes in there and put in my physical and things like that, but my principal who had worked in another school was telling me all the stuff they collect the data they collected from their EHR and all these things and I was like "wow we're really missing out."*

The reason for lack of EHRs is complex. Many key informants indicated they would like an EHR, but district administrators had indicated the cost was prohibitive, or the administrators or IT personnel did not feel there was a need for a separate EHR. Other informants spoke of colleagues intentionally not using EHRs because they had their own way of charting and did not want to learn a different way.

School Health Services Funding and MaineCare (Medicaid) Billing

Funding

Participants were asked about funding of school health services. Local school budgets were the most common source of funding for school nurses in both public and private schools whether they were urban or rural. Public schools were significantly more likely to report that school nurses were funded by the local school budget than were private schools (93.5% public vs. 73.3% private).

MaineCare (Medicaid) Billing

The majority of schools (83%) do not bill through MaineCare. No schools reported billing for nursing or administrative outreach and support. Fifty-three (20.4%) of public schools reported that the district/school contracted with providers who then bill MaineCare for their services as did four (26.7%) private schools. The rationale stemmed from past issues where districts were audited and found to not be compliant with Medicaid billing and reimbursement requirements, resulting in the need to pay back funds. The subsequent media coverage served as a deterrent to direct billing from schools.

Students with Chronic Conditions, School Nursing Activities, and Intent to Stay

Students with Chronic Conditions

Participants in the survey were asked about the number of students in their schools with specific chronic conditions. Asthma is the most common chronic condition found in schools, followed by life threatening allergies. Respondents were also asked about common reasons for health room visits (Figure 4). Acute care is the most common reason, accounting for about half of all visits.

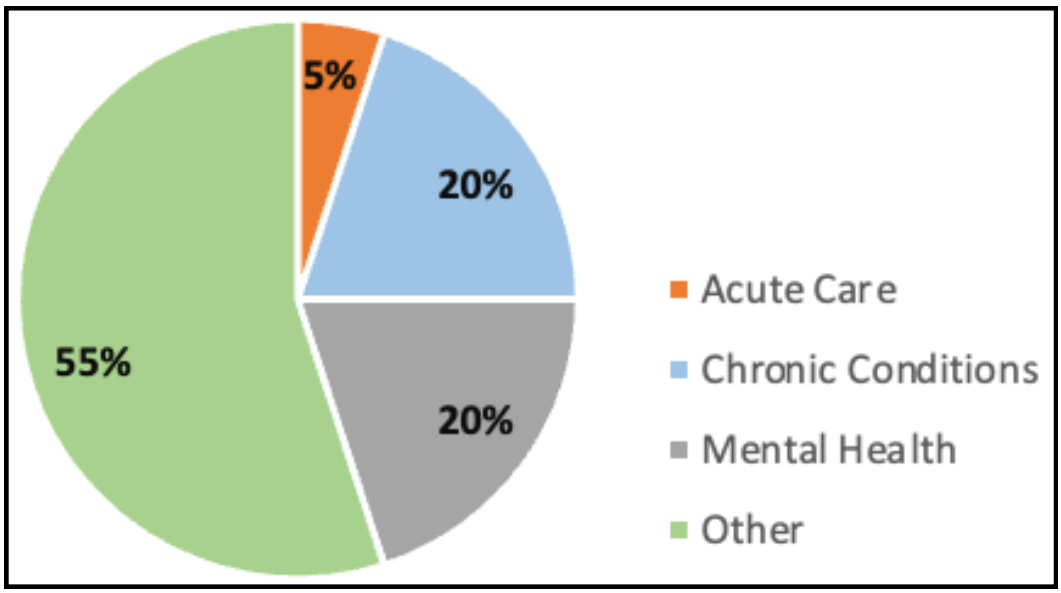

Figure 4. Reasons for Health Office Visits

School Nursing Activities

The respondents of the survey were asked to share (per school) the percentage of time nurses spent on various activities, based on the National Association of School Nurses' (2016) *Framework for 21st Century School Nursing Practice. (Figure 6) The Framework* principle of Standards of Practice was not asked. These patterns were consistent across rural and urban public schools (Figure 5).

The key informant interviews provided context and further depth to school nurse activities. Chronic condition management was identified as one of their activities not just in managing the condition but helping school staff understand and the value that brought to schools.

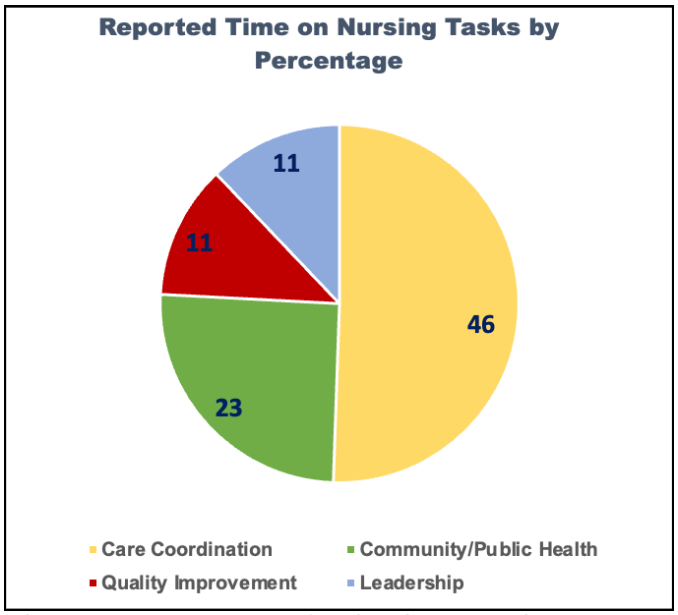

Figure 5: Percentage of School Nurse Time By NASN's Framework.

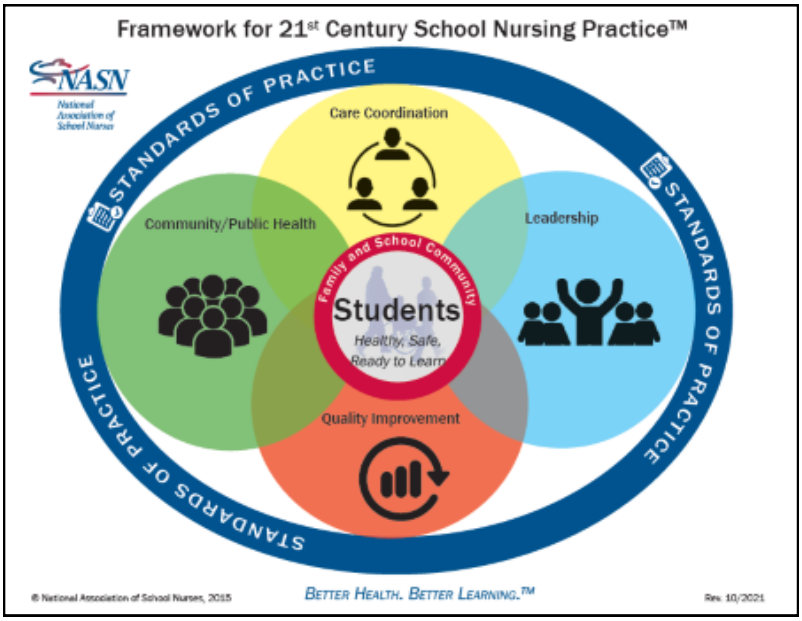

Figure 6: National Association of School Nurses [NASN]. (2016). Framework for 21st century school nursing practice: National Association of School Nurses. NASN School Nurse, 31(1), 45-53. doi: 10.1177/1942602X15618644

Maine nurses indicated they would like to do more health promotion and teaching, but did not have the time. *"I would like to be seen as a school health specialist. I would like to work differently. That I would have more time with classroom teachers. That I would like to begin the day, not always with problems, but hearing what happened. Getting that sense and I would really like to create."*

> ***When I was first hired, the, superintendent at the time said, 'boy, you cost me a lot of money.' And I said, 'I saved you [$20,000]… you had one to one, people for all your students with diabetes..you didn't need to do that. You just need to educate them.' They need to educate their families and you need to let them feel confident in what they're doing.***

Key informants described partnering with local hospitals and public health departments to provide specific programs such as vaping cessation, dental hygiene, or mental health to schools. Many school nurse activities are further complicated by the social influencers of health that are known to impact the type and amount of time spent in the health room. This includes poverty, homelessness, mental health, lack of health, care, and food insecurity: *"I sort of look at poverty being, obviously it's a lack of financial resources, but it could also be a lack of security, safety, even just lacking an adult. There's a poverty of… family."*

In addition to social factors impacting the amount to time a school nurse spends on a particular activity, it influences the wellness of the school nurse: *"It's all not just the referral on the nurse side of things, but also how am I going to assist the parent with getting the time off because they may be paycheck to paycheck? How am I going to assist with transportation? How am I going to assist with them understanding how to utilize their insurance? Do they have insurance? Are they getting food? How come their kids don't have clothes on a regular basis that are clean? So it's not just "Oh, you have a headache." There's all of that going with it."*

Another respondent quoted, *"I brought free dental care here for kids that didn't have it. I find free health care for kids that don't have any insurance or aren't eligible for it. I've done a lot to advance nursing and healthcare in the school systems, but I'm also really tired."*

Intent to Stay

With the goal of developing a 3-to 5-year plan regarding school health services in Maine, respondents were asked about their future intentions. Survey respondents were asked how long they intended to stay in their current job. Figure 7 denotes survey respondents reported intended length of stay and Figure 8 is reported reasons for intent to leave.

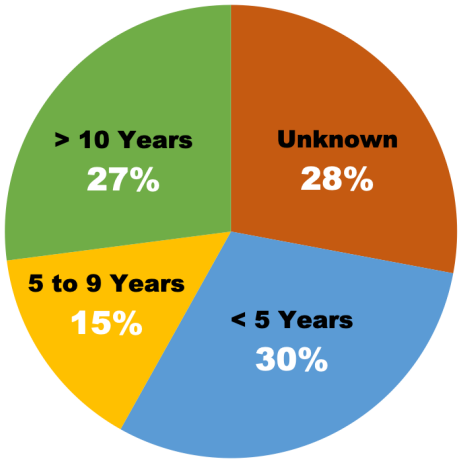

Figure 7: Survey Respondents Reported Length of Intended Stay in Current Role

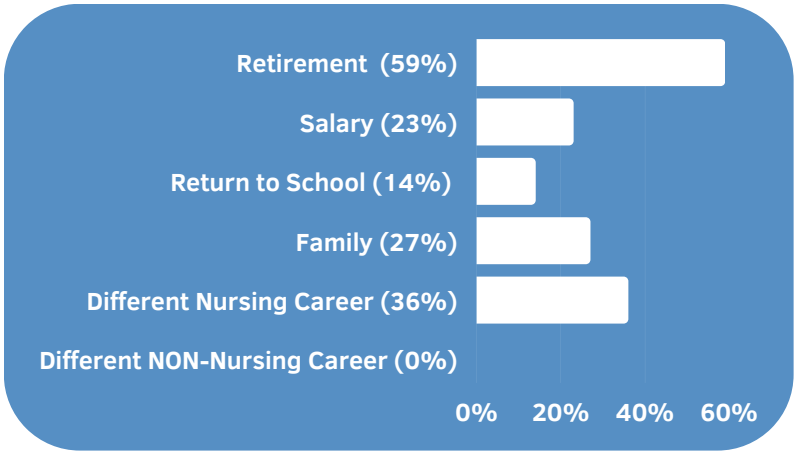

Figure 8: Survey Respondents Reported Reasons for Intent to Leave School Nursing

Retirement was the major reason for leaving (59% rural; 53% urban). Of concern is the number leaving their nursing career (36% rural; 70% urban), which has become a national nursing trend. There were significantly higher percentages of urban school nurses than rural school nurses who said they were leaving to pursue a different nursing career or a different non-nursing career.

When those leaving were compared with their responses regarding burnout (no burnout, low burnout, high burnout), a negative association between burnout and the length of time intended to remain in the job was noted. This means those who were burned out more were more likely to leave sooner. Interviewees shared some reasons that may be contributing to the burnout, as well as leaving the profession or not. In addition, to COVID and the complexity of the work as cited earlier, two common themes included the support they did or did not feel from leadership and feeling isolated.

Support & Loneliness

Several nurses in Maine spoke to supportive school leaders and what a difference this meant to their perceived quality of work. They spoke of regular meetings with the assistant superintendent who asked questions and listened to their needs. Others spoke about supportive principals encouraging to work to their full scope: "*My principal is much more about the whole child and building relationships. So he's encouraged me to be out of my office more and in the classrooms and interacting. Whereas at other buildings, I was afraid to leave my office because if a kid came down."*

> ***"...And I would love to be part of those other larger administrative discussions and decisions. Sort of value, you know, that role that we can have…we really are flexible and dynamic and problem solvers."***

Unfortunately, that was not always the case. Some interviewees stated that it was not only a lack of support from administrators but other district support teams that influenced perceived support. *"When I mentioned wanting an EHR, the IT guy came over and he was like, 'No, look at all the stuff it can do.' And so he was showing me all these videos and screenshots he had of what it could do and then I was like 'okay well that's fine but I need to try it I want to see what this looks like,' I didn't have access to anything he had showed me. So I'm like 'if you knew it did all this, why wasn't that given access to the nurses so we could use it?"*

The lack of understanding of the role and potential of the nurse was often cited as part of the reason for not feeling supported: *"I do think the staff and the students, for the most part, really trust us. And they share what's really going on and what they're worried about and so we have a unique perspective that maybe not everybody else has. And I would love to be part of those other larger administrative discussions and decisions. Sort of value, you know, that role that we can have…we really are flexible and dynamic and problem solvers."*

School nurses did not specifically say they felt isolated. Rather they spoke of what they learned that they didn't know and the importance of gaining new ideas and better understanding from other nurses or districts. *"I have … the basic eye chart and, you know, it works but I'm seeing these other schools that have nice machines and all these kind of things and I think that's becoming increasingly more popular to make that a little bit more robust."*

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Gap Analysis

The Agency for Healthcare Research and Quality (AHRQ, 2022) developed a process to help organizations better identify areas of improvement and create action steps for change. The steps include: 1. identifying best practice or professional standards; 2. identifying current practice; and 3. identifying gaps in best practice or professional standards and the reasons for the gaps. The Theory of Change process was then used to develop recommendations and the 3–5-year plan (Brest, 2010). Below is a brief discussion of national and global standards of school health services (step 1). The data from the survey and interviews were used to complete step 2.

National and Global Standards

Staffing

No national standard exists for a specific workload formula for school nurses. The National Association of School Nurses (NASN) (2020) recommends every school should have a school nurse and that workloads should be "sufficient" to meet the health needs of the school population. More work is needed to determine what factors influence adequate staffing. This may include student acuity, socioeconomic level of students, school infrastructure, and characteristics of the nursing staff (Endsley, 2017; Jameson et al., 2022; Jameson et al., 2018).

The Scope and Standards of School Nursing Practice outlines the roles of school nurses (NASN, 2022). NASN's (2016) Framework for 21st Century School Nursing Practice provides guidance to the areas of school nursing practice. Nationally, school nurses spend 49.2% of their time doing care coordination (including daily management of chronic conditions), 24.2% in public health/community activities (including immunizations and addressing social concerns), and approximately 10% on leadership and quality improvement/data activities (Willgerodt, Brock & Tanner, 2023). School nurses in Maine are similar in their focus.

There are no standards for school health services, except from the World Health Organization (WHO) (2021a). The state of Maine does have legislative statute defining the school nurse and regarding the role of school nurses in screenings, immunization, and medication administration (Maine Legislature, 2022). All of these statutes impact the school nurse's time and ability to perform to their full scope. Additional policies or guidance would be helpful to clearly define the standard of high-quality school health services in Maine.

Models of Staffing

With the increased complexity of children's health, more school nurses and school health services are needed in the schools. The traditional model that currently exists is that school nurses and school mental health workers are employed by the district. In the most recent school nursing workforce study conducted for NASN, among all schools in the northeast, 86.8% have RN only, 1.6 have LPN only, 10.8% have RN and LPN and 0.8% have no nurse (Willgerodt, Brock & Tanner, 2023). The majority of Maine also use a model of an RN only. However, other models exist for providing the needed services. Some school nurses are employed by the health department and contracted to work as full-time school nurses. Other school nurses are employed by hospitals, often children's hospitals (Becker & Maughan, 2017).

Quantifying and understanding models of school mental health workers has been challenging nationally. While some counselors have training in mental health, many receive their training at as part of Colleges or Departments of Education where the focus is more on career counseling, and as such do not have the comprehensive skills to address mental health. In addition, many districts contract with community mental health providers instead of directly employing them, further complicating the ability to collect systematic data in this area.

Two innovative models that may address not only shortages but also build a community approach to school health needs includes school-based health centers and community schools:

School-Based Health Centers. Many schools across the country, including Maine, have school-based health centers (SBHCs) that offer physical and mental/behavioral health services, and oral health needs. SBHCs are often funded through healthcare systems or community organizations, whereas school nurses are most often employed through the education sector. If the two were employed by the same employer, there may be increased communication, a more coordinated delivery model, and more coordinated services. Hartford Public Schools (n.d.) in Connecticut has such a model. The district funds several SBHCS through various funding sources, including a state grant and Medicaid reimbursements. The school nurses, who are also employees of the district, are in every school and refer students directly into the SBHCs. Many SBHCs are also Federally Qualified Health Centers (FHQCs) which is a reimbursement designation that allows them to be reimbursed at higher rates from the Centers of Medicare and Medicaid services (Healthcare.gov, n.d.).

Community Schools Model. Community Schools have recently received greater attention from the US Department of Education (2022), The model focuses on schools as the hub of a community that works together to support the whole child be successful (Maier et al, 2018). The Community Schools movement has also gained traction in Maine with the state legislature (2019) passing a bill to fund 3 new schools. Another strength in Maine is that at the MDOE, school nursing is part of a larger office that includes mental and behavioral health. Importantly, school nurses currently lead coordinating efforts in schools and thus, identifying a model with robust integration of school nurses is essential.

Electronic Health Records

Electronic Health Records (EHRs) are considered best practice for school health services documentation (NASN, 2019). EHRs allow for school nurses to document in real time and leverages technology to run reports, generate automatic letters or screening results, and assists school nurses in identifying trends and students' needs, increasing the efficiency of their work. However, several barriers exist regarding the use of EHRs in schools. They are an additional cost beyond the student information systems (SIS), already used by schools. SIS programs and EHRs are not always interoperable, creating challenges to data integration (and subsequent ability to understand the whole child), and importantly SIS programs do not follow the same student privacy guidelines and protections as EHRs.
In addition to managing documentation, EHRs can facilitate the submission requirements for school Medicaid reimbursement. They also allow the appropriate sharing of data to other entities including healthcare providers, local health departments, and others using an electronic system. Several children's hospitals have created the ability for school nurses to access provider records (usually view only) (Baker & Gance-Cleveland, 2021), which has resulted in a decrease of emergency room visits and hospitalizations (Baker et al., 2022). The CDC's (2020) Data Modernization Initiative (DMI) emphasizes and encourages a holistic and integrated data system. Unfortunately, the education sector has historically emphasized the importance of student privacy and limited data sharing (Makel et al, 2021).

Funding/Medicaid

Funding for school health services is a national concern. Like Maine schools, the majority of school health personnel are funded by local education dollars (Willgerodt, Brock, and Tanner, 2023). A recent Task Force facilitated by the Center for School Health Innovation and Quality looked at alternative funding sources for school health services including legislative funding and local tax levies.

A sustainable example of legislative funding is the School Nurse Corp in Washington State, which has been in existence since 1999. Dedicated legislative funds are distributed to nine educational service districts (ESDs) to assist and provide the services that rural and small school districts cannot finance on their own. A similar organizational model exists in Oregon where 19 Education Service Districts (ESDs) serve 197 public school districts in 36 counties. The ESDs receive money from general education funds, some of which are earmarked for the ESD component districts. The services offered – and the structure supporting those services – vary by ESD.

Several other locations have created a local tax levy earmarked for school health services. For example, in Seattle, WA, the Family & Education Levy funds much of the school health services (school nurses and school-based health centers) in King County. The city manager works with the district to determine where and how the funds are spent.

Finally, sometimes other revenues of funding have been earmarked for school and health initiatives. In Missouri, part of the tobacco tax is used to fund health initiatives (Missouri Department of Revenue, n.d.). In Wyoming, 49% of school funding comes from minerals found in the state, with additional funding from the minerals used to support construction of schools (Wyoming Kids Count, 2021). Could these same principles be applied in Maine. For example, a percentage of the revenue from Maine's extensive summer camps or tourism be earmarked for school health.

Medicaid

School-based Medicaid reimbursement is receiving more attention, particularly from the U.S. Centers for Medicare and Medicaid Services (CMS). In the National School Nurse Workforce Study, 42.3% of schools (31.8% of schools in the Northeast region of the U.S.) bill Medicaid for services (Willgerodt, Brock & Tanner, 2023). Our data indicate that Maine falls short of the practices of schools in other states.

With the expansion of the 2019 "Free Care Rule" schools are able to expand the eligible services to Medicaid-enrolled students. Nearly one-third of states have expanded their laws to reflect this change (Healthy Schools Campaign, n.d.). However, Maine is not one of these states, despite Maine's law allowing for nursing and other services to be reimbursed if included as part of the individual education plan (IEP). The Center for Budget and Policy Priorities analyzed data from the Centers for Medicare and Medicaid Services and determined public schools receive $4 billion in Medicaid reimbursement (Schubel, 2017).

Key informant interviews revealed several best practices that have facilitated Medicaid reimbursement. These include having clear policies about how reimbursement funds can be spent. The current CMS rule indicates the funds must be used to support the services for which the funds were received, but many districts report that does not always happen. Electronic health records that collect the appropriate information, automates reports and parent consent, and is interoperable to a 3rd party biller is crucial for successful billing. It also saves school nurses' time.

Health Promoting Schools: Infrastructure

The WHO (2021b) defines a health-promoting school as "a school that constantly strengthens its capacity as a safe and healthy setting for living, learning and working" (viii). The WHO and the United Nations Educational, Scientific, and Cultural Organization (2021a) has identified that, for schools to be successful regarding health, there needs to be appropriate school level (as well as community, state or federal) policies and resources to coordinate and address student health needs, as well as provide appropriate school governance and leadership. Maine does have some state statutes in place regarding school health, but additional guidance at the state level could help strengthen state laws and district policy.

There is a plethora of data in the literature that demonstrates the relationship between working in a supportive and healthy work environment and better patient and nurse outcomes (Olds et al., 2017). Unfortunately, there is little current research understanding the relationship between the school environment and student health and school nurse outcomes. Best practice can be extrapolated from three existing, evidence-based programs and toolkits: The American Nurses Credentialing Center's (ANCC, n.d.) Magnet Recognition program, the American Association of Critical Care Nurses (AACN) Healthy Workplace Initiative (Ulrich et al, 2023), and Child Trends' Toolkit for school systems to advance comprehensive school employee wellness (Stratford et al, 2023).

ANCC's Magnet Recognition is based on five key components: transformational leadership; structural empowerment; exemplary professional practice; innovation and new knowledge; and empirical outcomes. These, in totality, are purported to recruit and retain nurses who will provide high quality care.

The AACN Healthy Workplace Initiative includes 6 areas: appropriate staffing, meaningful recognition, authentic leadership, skilled communication, true collaboration, and effective decision-making (Ulrich et al, 2022). When these six components were part of the work environment, nurse and patient outcomes were improved.

Child Trend's recently released toolkit designed to address school employee wellness and addresses policies, programs and practice is another model that may guide school and district level policy making (Stratford et al, 2023). The toolkit is based on a framework of six domains of wellness: physical and mental wellness, economic stability, meaningful work, agency & empowerment, identity & belonging, and relationships. Many of the domains overlap or support the work done by AACN and ANCC but this framework explicitly attends to physical and mental wellness, a critical consideration given the strong association between burnout and intent to leave.

One common theme across all three programs is the need for empowerment and transparent decision making. Data in this environmental assessment suggest that school nurses in Maine who perceive supportive leadership felt empowered and contributed meaningfully to decision-making. The supportive leadership should also include clinical oversight to ensure clinical competence. In the National School Nurse Workforce study, 30% of respondents reported having a nurse supervisor, compared to 20% and 10% of respondents in Maine urban and rural public schools respectively in this assessment. NASN (2023) recommends a nursing supervisor to evaluate school nurses' clinical work.

Identified Gaps

The following gaps have been identified as a result of this assessment. Below each gap is listed along with the barriers or reasons for the noted gap. Many of the barriers and reasons were identified through the key informant interviews and focus groups.

Staffing Gaps	Barrier/Reason
Lack of state and local level guidance and standards for school nursing and school health practice	• Lack of guidance for school nursing or school health services (including variances needed for rural areas) • Lack of understanding of role of school health services (by educators and other health personnel) • Lack of understanding of full scope of school health (educators and SHS)
Lack of adequate staffing to support student healthcare needs	• Lack of guidance for school nursing or school health services (including variances needed for rural areas) • Lack of sufficient funds for staff and resources • Lack of innovative new models of staffing to meet current needs. • Lack of incentives for adequate staffing • Lack of trained staff (including nurses and behavioral health staff) • Lack of ability to recruit new workforce
Lack of district infrastructure to support successful school health services	• Lack of guidance for districts Lack of understanding (educators, SHS, lawmakers) • Lack of incentives for district compliance

Electronic Health Record (EHR) Gaps	Barrier/Reason
Lack of EHRs specific to student health needs	• Lack of funding for EHR Lack of understanding (by educators and nurses) • Lack of training (district IT and school nurses) • Lack of knowledge to differentiate EHR from SIS
Lack of centralized reporting system	• Lack of interoperability • Lack of funding • Lack of understanding of system and how data can be used. • Reliance on paper or other outdated charting systems

> *We always call ourselves the square pegs in round holes because we are the only licensed medical professionals in the educational professional environment.*

Funding & MaineCare Gaps	Barrier/Reason
Inadequate funding of school health services (including adequate salaries)	• Traditional funding stream for education does not meet current need; overall budget is insufficient • Lack of Medicaid billing for Medicaid reimbursement
Lack of MaineCare Billing and Reimbursement	• District fears and lack of understanding • Lack of EHR to easily submit billing. • Currently not including nurses on IEP (so unable to reimburse) • Need for changes in legislation and state law to maximize billing opportunities. • Need for updated policies, processes, training to facilitate billing. • Lack of IT services understanding and support

Recommendations & Solutions

Analysis of the environmental scan indicates that Maine has a strong foundation of school health services, which may be leveraged for continued success. These strengths include engaged school nurses who meet the challenges of their school population and are members of interdisciplinary teams that work in a multi-tiered system of support. The state nurse consultant, 2 state school nurse school nurse specialists and 4 school nurse regional liaisons further provide a strong infrastructure from which to build. Additionally, the Maine Association of School Nurses is very active.

The recommendations are organized based on the barriers identified in the gap analysis. The recommendations then guided the creation of a 3–5-year school health services plan.

Guidance, Policies, & Direction

- Leverage the state-level school health advisory council or other school nursing working (or learning) groups, to oversee development of Maine Model and Standards of School Health Services, under the direction of the Maine State School Nurse Consultant. These best practice standards would include:
  - Appropriate staffing models/formulas, including workload formulas for school-nurses must also address this younger population.
  - Articulated competencies created for school health services activities that align with the scope and standards of the various professions (i.e. school nursing).
  - Regularly expected (or mandated) district level community-based needs assessment to inform their school health program. Specific and explicit consideration should be given to the unique needs of rural districts.
- Strategically identify data points to be required in the yearly school health report. Data points should focus on key school health services indicators and students' greatest needs. Leverage Maine's Professional Evaluation and Professional Growth (PEPG) structure to collect additional data.
- Develop state-level guidance for districts to develop or strengthen infrastructure that supports school nurses and school nursing practice. This includes having nurse supervisors.

Professional Development

- Based on Maine's Professional Evaluation and Professional Growth (PEPG) (chapter 180), develop a system for school health personnel that encourages monitoring of student health and corresponding professional development to address the emerging student needs.
- Explore revising school nurse certification (524) D3 requirements to include content about the educational system and school-age related health and developmental needs. The wording should also be clarified that courses outside the University setting can be approved to meet this requirement.
- Utilize the state School Health Advisory Council or Maine Association of School Nurses (MASN) to create content to teach prelicensure teachers and principals about school health.
    a. Advocate to credentialing bodies for school health services to be a part of prelicensure education programs.
    b. Investigate leveraging Maine's certification requirements for teachers to include the whole child approach and role of student support services.
- Develop specific trainings or videos to help school nurses, educators, parents, community providers and other invested individuals to better understand roles.
- Utilize future workforce capacity funding to create a statewide orientation and mentorship program for new school nurses. Delaware has a proven, sustainable program.
- Leverage programs such as the University of Maine Farmington's program to provide coaching to mathematics teachers ,and partner with a University to provide similar coaching and mentoring to school nurses.

Electronic Health Records

- Adopt a statewide electronic health system to facilitate data submission and alleviate the dependence on paper submission. This provide richer data that can be utilized by DOE to identify issues earlier and better inform programs.
- Create state standards for school EHRs. based on NASN's existing guidance for selecting an EHR, with additional standards to include the requirements needed to bill MaineCare and to automate parental consent.

> "The needs of the students have increased and now I actually have a student who has an educational plan that requires a nurse be in the building when they are there."

Funding/Medicaid

- Investigate innovative funding models for school health services such as tax levies, earmarked funds, or population-based Medicaid reimbursement.
- Advocate that state initiatives such SBHCs or pre-K expansion to include funds for appropriate school nursing coverage.
- Create a State School Medicaid (MaineCare) Team. The team should be tasked with identifying strategies to barriers noted to billing for MaineCare and be poised to capitalize on funding opportunities that arise. The team should:
- Coordinate trainings for educators, school nurses and parents
- Develop website and provide technical assistance to districts.
- Develop an IEP template to comply with MaineCare standards.
- Provide templates for EHR companies to facilitate billing requirements.
- Advocate for state laws and local policy so districts are accountable to allocating reimbursement funds directly to the services billed.
- Develop systems to review MaineCare reimbursement data to identify any gaps to address.
- Develop at the state and local district level dashboards to show transparent reporting and use of funds.

Innovation

- Partner with the MDOE Office of Innovation to foster a spirit of innovation in school health services and identify new models of school health that may include telehealth, mobile clinics/vans, community schools movement, FQHCs, or something new.

Pipeline/Retention of School Health Services Personnel

- Investigate other benefits schools can provide to school health personnel. Options may include job sharing, telehealth (working from home), tuition reimbursement, and professional development opportunities or helping support a better work-life balance.
- Investigate loan repayment programs for school nursing and other school health personnel shortages much like what exists for nursing shortage programs.
- Work with Maine Office of Professional and Occupational Regulation along with professional membership organizations to address the shortage of nurses and mental health professionals.
    a. Investigate how schools' vocational programs, and districts and Universities could partner to create a pipeline in school health services personnel.
- Develop school health career clubs led by school nurses (Randolph & Mattey, 2023).

Conclusion

School nurses in Maine and across the country face real and complex challenges. They are not unique challenges. Yet school health services have essentially remained the same over the past 50 years, despite changes to youth demographics, school systems, and the increased medical complexity of children in schools. Maine has a window of opportunity to strategically develop a dynamic school health services program that will better meet students' current and emerging needs. The youth of Maine deserve nothing less.

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